

Title (en)

Pulse shaping circuit using an analog delay line for fiber-optic systems

Title (de)

Impulsformschaltung für Lichtwellenleitersysteme mit einer analogen Verzögerungsleitung

Title (fr)

Circuit de mise en forme d'impulsions pour système à fibre optique comprenant une ligne à retard analogique

Publication

EP 0639002 B1 19980325 (EN)

Application

EP 94305962 A 19940811

Priority

US 10604093 A 19930812

Abstract (en)

[origin: EP0639002A1] A fiber-optic system includes a photodetector (16) for receiving optical signals from a light source (12), a threshold producing circuit (26) coupled to the photodetector (16), and a delay block (28) coupled to the photodetector (16). The threshold producing circuit produces a decision threshold voltage ((VT)) in response to signals from the photodetector (16). The delay block (28), formed of one or more stages of all-pass filter (60), delays the signals from the photodetector (16). The outputs of the delay block (28) and the threshold producing circuit (26) are connected to the inputs of a comparator (52). By providing a delayed signal, the decision threshold voltage ((VT)) is established in the comparator (52) before the delayed signals reach the comparator (52). In this manner, pulse width distortion is largely eliminated in the first bit of data in burst mode data and the dynamic range of the overall system is preserved. In some cases, a multi-staged delay (100) causes DC offset error in the delayed signal to the comparator (52). To reduce this error, a DC offset correction circuit (110) coupled to the delay block (100) corrects the DC offset error through the use of negative feedback across the delay block (100). <IMAGE>

IPC 1-7

H03K 5/08

IPC 8 full level

H04B 10/60 (2013.01); **H03H 11/18** (2006.01); **H03K 5/08** (2006.01); **H04B 10/07** (2013.01); **H04B 10/2507** (2013.01); **H04B 10/40** (2013.01); **H04B 10/43** (2013.01); **H04B 10/50** (2013.01); **H04B 10/69** (2013.01); **H04L 25/03** (2006.01)

CPC (source: EP US)

H03K 5/082 (2013.01 - EP US)

Citation (examination)

US 4257126 A 19810317 - THEALL JR CHARLES E

Cited by

GB2369755A; GB2369755B; US6525568B2; WO2016210362A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 0639002 A1 19950215; **EP 0639002 B1 19980325**; DE 69409179 D1 19980430; DE 69409179 T2 19980716; JP 3439538 B2 20030825; JP H0779259 A 19950320; US 5459311 A 19951017

DOCDB simple family (application)

EP 94305962 A 19940811; DE 69409179 T 19940811; JP 20920994 A 19940810; US 10604093 A 19930812